



State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
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Division of Oil, Gas and Mining

JOHN R. BAZA
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November 20, 2018

Kirk Nicholes, Resident Agent
Alton Coal Development, LLC
463 North 100 West, Suite 1
Cedar City, Utah 84720

Subject: LBA Block 1 Amendment, Alton Coal Development, LLC, Coal Hollow Mine,
#C/025/0005, Task ID #5772

Dear Mr. Nicholes:

The Division has reviewed your application for mining LBA block 1 referenced above. The Division has identified deficiencies that must be addressed before final approval can be granted. The deficiencies are listed as an attachment to this letter.

The deficiencies authors are identified so that your staff can communicate directly with that individual should questions arise. The plans as submitted are denied. Please resubmit the entire application once you have acquired right-of-entry to the coal that you intend to mine.

If you have any questions, please call me at (801) 538-5325.

Sincerely,

Daron R. Haddock
Coal Program Manager

DRH/sqs
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GARY R. HERBERT
Governor
SPENCER J. COX
Lieutenant Governor

State of Utah

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Technical Analysis and Findings

Utah Coal Regulatory Program

PID: C0250005
TaskID: 5772
Mine Name: COAL HOLLOW
Title: LBA BLOCK 1

Summary

The application provides mining plans for a 42 acre block much of which is federal coal that is located within the SW1/4 NW1/4 of Section 20 (Dwg 1-3). The disturbed area boundary will be adjusted to 414.5 acres. The federal block is designated 2019 mining on Plate 5-2. Overburden will be removed as shown on Dwg 5-16. Under the proposed mining scenario, the underground mining facilities in Pit 10 would be eliminated and Pits F7 and F8 will become the access for underground mining.

pburton

General Contents

Right of Entry

Analysis:

The application can not be approved until the coal lease is obtained (Chap 1, p. 15).

The surface Right of Entry document is the Pugh Lease item 8.04 found in Appendix 1-2 (Confidential 10152009.doc).

Deficiencies Details:

The application does not meet the R645-301-114, right of entry requirements. The following deficiency must be addressed prior to final approval:

R645-301-114, The application can not be approved until the coal lease is obtained (Chap 1, p. 15).

pburton

Permit Application Format and Contents

Analysis:

The amendment does not meet the R645 requirements for Permit Application and Contents.

Various drawings in this submittal contain drafting errors that need to be corrected. These include the following:

Drawing 5-9 includes a mathematic summary of coal tonnage broken out according to Fee and Federal ownership. The Federal Coal Summary includes two errors on the summary line at the bottom. The Federal Coal is actually referred to as Fee coal, and needs to be changed. In addition to this, there is a minor arithmetic error on the summary line.

Drawing 5-17 contains an inset legend that illustrates the difference between the surface disturbances in the South Lease. The legend polygon that designates what Surface Disturbance should look like has been left blank.

Drawing 5-22 contains a legend that is lacking a symbol that designates what a Proposed Diversion Ditch looks like within the body of the map.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Permit Application and Contents. The following deficiency must be addressed prior to final approval:

R645-301-120, 121.200: Permittee must correct minor typographical and arithmetic errors in the Federal Coal Summary on Drawing 5-9, and make necessary revisions to the legend in Drawings 5-17 and 5-22.

jeatchel

Permit Application Format and Contents

Analysis:

The application does not contain current information R645-301-121.100, or is not clear and concise R645-301-121.200, because of the following:

In Chapter 1:

- p. 6. and p. 9, Coal Hollow Permit Area Ownership Table. Please revise Note*
- p. 8. and p. 17. Give the complete mailing address for the BLM office in SLC
- p. 15. Section 112.800, reference to Dwg 1-2 is not clear since the revised Table of Contents deleted this drawing.
- p. 16. Section 113 Violation information references Appendix 1-10 for the required list. Appendix 1-10 must be brought current for the past three years at Coal Hollow and related entities.
- p. 19. Are the 4 phases of mining shown on a map of the Coal Hollow Mine (South Lease), as they are for the North Lease? If so, please reference the maps showing North and South Lease phases. If not, please show the phases on a map.
- P. 19. Phase 4 describes 42 acres. P. 16 states 43 LBA acres are within the South Lease permit area.
- p. 18. Section 115.300. LBA Block 1 will re-mine through the County Road in an area that has received Phase I bond release. Please revise the narrative in Section 115.300 and obtain the necessary approval for re-disturbing the County Road in accordance with R645-103-234.100.

In Chapter 2:

- Dwg 2-1. The polygon outlines surrounding the new RS soil type must be brought together to enclose and define the RS soil type in Section 29. Legend must include a description of permit and LBA boundary lines. M1 designation is easily mistaken for M. there is an M family soil in Table 2-1. Designation RS for Pit 10 is not correct. Pit 10 should be labeled open pit.
- p. 2-3. Section 222.200 New soil map unit R1 could not be found on Dwg 2-1 or in the legend of Dwg 2-1.

Deficiencies Details:

The application does not meet the R645-301-121.100, current information and/or R645-301-121.200 clear and concise requirements. The following deficiency must be addressed prior to final approval:

R645-301-121.100 and R645-301-121.200,

In Chapter 1:

- p. 6. and p. 9, Coal Hollow Permit Area Ownership Table. Please revise Note*
- p. 8. and p. 17. Give the complete mailing address for the BLM office in SLC
- p. 15. Section 112.800, reference to Dwg 1-2 is not clear since the revised Table of Contents deleted this drawing.

- p. 16. Section 113 Violation information references Appendix 1-10 for the required list. Appendix 1-10 must be brought current for the past three years at Coal Hollow and related entities.
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- P. 19. Phase 4 describes 42 acres. P. 16 states 43 LBA acres are within the South Lease permit area.
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- p. 2-3. Section 222.200 New soil map unit R1 could not be found on Dwg 2-1 or in the legend of Dwg 2-1.

pburton

Environmental Resource Information

Soils Resource Information

Analysis:

The application does not meet the requirements of R645-301-222, soil survey, because representative soil pits must be evaluated for soil map units 1, map unit 6 and map unit 9 within the LBA Block 1. The 42 acre LBA Block 1 disturbed area lies within the current Coal Hollow Mine South lease boundary. The LBA Block 1 was part of the original 2008 soil survey (Appendix 2-1). The soil survey revealed sodic soils in map unit A, but the representative soil pit is not within the 42 acre parcel to be disturbed. The survey revealed unacceptable pH values in Map unit 6, but again the representative soil is not in LBA Block 1. The representative soil pit for map unit 9 could not be found on Dwg 2-1 and may have been mined through. Prior to soil salvage, soil horizons in Map Unit 1, Map Unit 6 and Map unit 9 must be described, sampled and analyzed.

The soil survey map, Dwg 2-1, has been modified to show where reclaimed ground (reclamation soil type, RS) has displaced the original undisturbed soil map unit. Reclaimed areas are also shown on Dwg 2-3 topsoil handling.

North of Ditch 4-A-U and East of the primary haul road shown on Dwg 5-3 Facilities, soils in map units 1, 6, 9, 10 and 11 will be disturbed. These map units and their major components are described in Chapter 2 and details are provided in Appendix 2-1. Dwg 2-1 shows Soil pits 27, 28, 29 and 50 were located in the undisturbed area of LBA Block 1.

Soil pit 27

Soil pit 27 was located in map unit 1, soil type A soil, just North of undisturbed ditch 4-A-U. The taxonomic family is fine, mixed, superactive, mesic Aridic Calciustept. The soil profile description of pit 27 describes a very deep silty clay loam soil.

Samples were not analyzed from soil pit 27, but they were sampled and analyzed from soil pit LOF-1 which is described as the representative soil for Map unit 1 soil type A.

Soil pit 27 and Soil Pit LOF-1 comparison

Appendix B of Appendix 2-1 states that sample location LOF-1 (in the mine facilities yard) is representative of map unit 1, Type A soil. However, in comparing the soil profile descriptions for the two soils, one notes that the LOF-1 soil is much more shallow. In the LOF-1 profile, bedrock is encountered at 42-60 inches. Soil pit 27 profile extends to 140 inches. Soil pit 27 has a more desirable silty loam texture than the clay loam LOF-1 soil. The similarity between soils is the carbonate coatings noted in the sub surface horizons.

The LOF-1 horizons were sampled and analyzed by horizon (Appendix C of Appendix 2-1). Lab analysis of the LOF-1 site indicates approximately 27% carbonates in the subsoil. The pH is near neutral at the surface, rising to 8.7 below 24

inches. SAR rises with depth to 4.02 at 24 inches, however the EC remains low at 0.90 dS/m. The three values of pH, SAR and EC together indicate a sodic trend at the LOF-1 location below 24 inches. This trend continues below 42 inches where the SAR is 12.3 and the EC is 4.75 dS/m (pH = 8.4). This soil is not well drained (saturation = 65%). The fertility (N,P, K content) of the LOF-1 soil is low.

Soil pit 28

Soil pit 28 represents soil map unit 11, but is also a soil type A soil of the same taxonomic description. This soil is located on the private coal boundary line in the SW1/4 NW1/4 SW1/4 Sect 20 (Dwg 5-3). The profile is similar to LOF-1 soil. (Appendix B). The lab analysis of soil pit 28 revealed less carbonate in the subsoil. Sodium and electrical conductivity increase below 24 inches to SAR = 5.5 and EC = 5.94 dS/m and the pH at this depth is 8.1. This clay soil is saline, but not sodic. This clay soil has higher values of nitrogen and potassium, perhaps because it was fertilized during a previous seeding (Appendix B pit 28 profile notes seeding of the area). Saturation = 72.6% below 24 inches.

Soil pit 29

Soil pit 29 was located in map unit 9, soil type D soil, just East of the primary haul road near culvert 16 (Dwg 5-3). The taxonomic family is fine, mixed, superactive, mesic Aridic Calciustoll, reflecting a more developed soil with a deeper and darker colored topsoil (mollic). Soil pit 29 mollic horizon was 12 inches loam topsoil A horizon.

Samples were not analyzed from soil pit 29, but they were sampled and analyzed from soil pit SP-41 which is described as a representative soil for Map unit 9, soil type D.

Soil pit 29 and Soil Pit 41 comparison

Soil pit 41 has a similar deep topsoil horizon with a silty clay texture. The pH of the A horizon is 7.9. The B horizon extends to 80 inches. Carbonate accumulation increases with depth, but does not exceed 17%. At 64 - 80 inches the texture changes to sandy loam and the pH rises to 8.8. Saturation percent is 63-69% in the surface horizon and falls to 31.5% at the sandy loam. Soil Pit 41 may have been mined through, as it could not be found on Dwg 2-1.

Soil pit 50

Soil pit 50 is shown in soil map unit 10 and is in the ZigZag Family. The taxonomic description is clayey, mixed, superactive, calcareous, mesic, shallow Aridic Ustorthent. This is a shallow clay soil with a limited topsoil (4 inches). Bedrock was encountered at 19 inches. However, neither the topsoil or subsoil has any limiting factors. pH is 8.1 to 8.4. EC is less than or equal to 0.3 dS/m. SAR is less than or equal to 0.52. Carbonate percentage is less than or equal to 18.5%

Map Unit 6

Map unit 6 covers above 3 acres within the LBA Block 1. There is no soil pit in Map unit 6. Soil pits 15 and 16 in the former Excess Spoil Pile location represent this soil. Taxonomically they are fine (or coarse) loamy mixed superactive, mesic Aridic Calciustolls. These silty loam soils have an organic layer above a mollic topsoil horizon that is 8 – 12 inches deep. The B horizon extends to three feet. There is evidence of a fluctuating water table below four feet in the C horizon. These soil pits revealed unacceptably high pH values at 20 inches (pH of 8.7 or greater).

Deficiencies Details:

The application does not meet the R645-301-222 soil survey. The following deficiency must be addressed prior to final approval:

R645-301-222, Representative soil pits must be evaluated for soil map units 1, map unit 6 and map unit 9 within the LBA Block 1. The 42 acre LBA Block 1 disturbed area lies within the current Coal Hollow Mine South lease boundary. The LBA Block 1 was part of the original 2008 soil survey (Appendix 2-1). The soil survey revealed sodic soils in map unit A, but the representative soil pit is not within the 42 acre parcel to be disturbed. The survey revealed unacceptable pH values in Map unit 6, but again the representative soil is not in LBA Block 1. The representative soil pit for map unit 9 could not be found on Dwg 2-1 and may have been mined through. Prior to soil salvage, soil horizons in Map Unit 1, Map Unit 6 and Map unit 9 must be described, sampled and analyzed.

Geologic Resource Information

Analysis:

Geologic Resource information was provided in the original Coal Hollow permit application and was incorporated into the Mining and Reclamation Plan on October 15, 2009. Information for the South Lease area was adequately characterized and has not changed as a result of this amendment. LBA Block 1 is entirely located within the existing permit boundary of the South Lease area.

dhaddock

Probable Hydrologic Consequences Determination

Analysis:

The amendment does not meet the State of Utah R645 requirements for Probable Hydrologic Consequences.

The amendment proposes to mine the federal coal sitting north of Pit 10 in the south lease. Drawings 5-9 and 5-10 show the coal extraction area and the location and orientation of the pits to mine the coal. It appears these pits will be located entirely to the west of the north-south trending Tropic shale ridge running through the permit area. However, the amendment does not provide a narrative that the pits will be to the west of the shale ridge and open-pit mining will not disturb the aquifer resting to the east of the ridge. If the pit extent does intend to mine through the Tropic shale ridge to the east of Pit 10, the PHC shall be updated to address any impacts to the hydrologic balance that will occur. Including potentially reduced flows at springs resting along the southern end of the ridge near the Dame's property.

Deficiencies Details:

R645-301-728.340: The amendment does not meet the State of Utah R645 requirements for Probably Hydrologic Consequences. The following deficiency must be addressed prior to final approval:

The amendment must include a narrative discussing the location of the open pits to be developed north of Pit 10 in relation to the Tropic Shale ridge to the east. If mining intends to mine through this ridge the PHC must be updated to address 'whether the proposed activity will proximately result in diminution or interruption of' the aquifer resting to the east of the ridge.

kstorrar

Operation Plan

Coal Recovery

Analysis:

The amendment meets the State of Utah R645 requirements for Coal Recovery.

The amendment satisfies the minimum requirements of R645-301-522 because narrative on pages 5-27 through 5-30 provides the most current coal recovery volumes in both the South Leases as well as the North Private Lease. The narrative indicates how much coal within the lease is recoverable, and breaks out the tonnages according to which recovery method will be employed, either by Surface, Underground or Highwall mining. Recent to this amendment is a table that further clarifies how much coal tonnage is included in the Federal coal reserves within the permit boundary. There are 5,664,100 tons of Federal coal reserves within the South Lease permit boundary; this amendment is presently seeking to recover 1,135,200 tons via surface mining methods. The remaining 4,329,800 tons of coal within the Federal coal reserves will be pursued at a later date. The narrative further clarifies that surface mining methods will recover 95%, underground mining methods will recover 45%, and highwall mining methods will recover 35% of the planned tons within the South Lease. A coal extraction overview is depicted on Drawing 5-9, which offers an illustration of all recoverable coal within South Lease permit boundaries.

jeatchel

Fish and Wildlife Protection and Enhancement Plan

Analysis:

The amendment does not meet the State of Utah R645-301-333 requirements for fish and wildlife protection and

enhancement plan. The BLM's sale of this lease comes with a number of lease stipulations to be implemented prior to surface-disturbing activities. Lease Stipulation #5, found in the Alton Coal Tract Lease by Application Final Environmental Impact Statement, requires a wildlife management plan that is approved by the BLM's Kanab Field Office (KFO) and is in conformance with the BLM-KFO's Resource Management Plan (RMP). Additional requirements for Stipulation #5 include informing and educating employees about wildlife protection issues, something the company already does as part of their "Wildlife Awareness Program" found under the "Other Compensatory Mitigation" section on page 3-29 of Chapter 3 of the MRP. Stipulation #5 also requires the lessee to "minimize new surface facility construction activities in big game crucial summer habitat from May 15 to July 15." The lessee will also be required to develop a migratory bird and raptor conservation plan that includes a delivery schedule for surveys and monitoring prior to surface-disturbing activities. This plan, at a minimum, "must outline nest surveys, avoidance, and minimization mitigation measures for impacts to migratory birds, birds of conservation concern, raptors, and their habitat." Stipulation #5 also requires the use of barricades or fencing where necessary to protect "wildlife, livestock, and the public."

Stipulation #6 requires the approval, by BLM-KFO, of a sage-grouse mitigation compliance plan that conforms to the Greater Sage-Grouse Mitigation Plan found in Appendix E of the FEIS.

Some of the requirements in these lease stipulations already exist in the current Coal Hollow MRP, however, they are subject to review and approval by the BLM-KFO. This process of review cannot occur until the sale of the lease. Upon being awarded the lease by the BLM, the lessee will then be able to move forward in satisfying the requirements of these and other lease stipulations.

Deficiencies Details:

The amendment does not meet the State of Utah R645-301-333 requirements for fish and wildlife protection and enhancement plan. The following deficiencies must be met prior to final approval:

R645-301-333:

A wildlife management plan must be created that conforms to Lease Stipulation #5 of the Alton Coal Tract Lease by Application Final EIS.

A commitment to minimize new surface facility construction from May 15 to July 15 must be included in the MRP.

The development of a migratory bird and raptor conservation plan conforming to the requirements of Stipulation #5 must be completed.

A sage-grouse mitigation compliance plan that conforms to Stipulation #6 must be submitted and approved by the BLM-KFO.

tmiller

Topsoil and Subsoil

Analysis:

The application does not meet the requirements of R645-301-231, soils handling plan, because Dwg 2-2 Soils Handling plan and other details of soil salvage are missing from the application.

The Division calculates the area of undisturbed topsoil salvage to be approximately 34.4 acres. The area of subsoil salvage will be the entire 42 acres. Topsoil salvage area is less than subsoil salvage area due to previous disturbance and salvage of subsoil for facilities such as the primary haul road, and area cleared around pond 2. In the location of former topsoil pile 4 the topsoil to be removed is modified soil (M1).

The soil survey revealed the potential for sodic soils in map unit A. But the representative soil is not within the 42 acre parcel to be disturbed. The survey revealed the potential for unacceptable pH values in Map unit 6, but again the representative soil is not in LBA Block 1. A depth of recovery for topsoil and subsoil should be specified for all soils, given their limitations. Depth of recover for M1 soils should be specified. The narrative in MRP Section 231.100 should be updated with these details.

Deficiencies Details:

The application does not meet the R645-301-231 soils operation plan The following deficiency must be addressed prior to final approval:

R645-301-231.100 and R645-301-232.600, Describe the timing and method for removing and storing the topsoil, subsoil and M1 soil.

R645-301-231.400, Describe the modification and maintenance of topsoil and subsoil handling storage areas.

R645-301-121.100, Provide the revised Soil Handling Dwg 2-2.

pburton

Hydrologic Ground Water Monitoring

Analysis:

The amendment meets the State of Utah R645 requirements for Groundwater Monitoring.

The amendment proposes to develop open pits extending north of Pit 10. All groundwater resources have been accounted for within the current permitted area of the south lease. As long as open pit mining rests to the west of the Tropic shale ridge as shown on Drawings 5-9 and 5-10 there will be no groundwater resources encountered within the proposed surface mining and highwall mining areas.

kstorrar

Hydro Surface Water Monitoring

Analysis:

The amendment meets the State of Utah R645 requirements for Surface Water Monitoring.

The current water monitoring plan includes surface monitoring sites above, within and below the mining activity. There are currently four water monitoring sits along Lower Robinson creek spaced above, within, and below the permit area. Given the extent of the disturbance stops before Lower Robinson creek and is fully within the limits of the current permit boundary no addition surface water monitoring sites are necessary at this time.

kstorrar

Hydrologic Diversion General

Analysis:

The amendment does not meet the State of Utah R645 requirements for Diversions.

The amendment includes and update to Appendix 5-2 Hydrology and Runoff Control for the south lease of the Coal Hollow mine. A few of the diversions in the south lease will be modified to accommodate mining development extending north of Pit 10 into the federal coal. The calculations for curve numbers, diversions, and culverts have been updated. Ditch 4 will be extended to the east to capture all runoff north of the active mining and convey it to Sediment Pond 3. Ditch 1 will be extended to the north to capture and convey all undisturbed runoff east of the disturbed area past the site and down Sink Valley wash.

The amendment discusses two new culverts will be installed along Ditch 1 in Drawing 5-3A on page 3 of Appendix 5-2. However, Ditch 1 is missing from this drawing, but it appears the two new culverts are for Diversion Ditch 4. This narrative should be cleaned up by referring to the correct ditch.

Deficiencies Details:

R645-301-742.123: The amendment does not meet the State of Utah R645 requirements for Diversions. The following deficiency must be addressed prior to final approval:

The amendment discusses two new culverts will be installed along Ditch 1 in Drawing 5-3A on page 3 of Appendix 5-2. However, Ditch 1 is missing from this drawing, but it appears the two new culverts are for Diversion Ditch 4. This narrative should be cleaned up by referring to the correct ditch.

kstorrar

Hydrologic Siltation General

Analysis:

The amendment meets the State of Utah R645 requirements for Sediment Ponds.

The amendment proposes to remove Sediment Pond 2 and instead convey the runoff to Sediment Pond 3. Diversion Ditch 4 will be extended to the east running along the southern boundary of Lower Robinson Creek to capture this additional runoff. Table 3 in Appendix 5-2 provides a narrative and calculations showing Sediment Pond 3 is adequately sized to contain and treat runoff reporting to the pond from watershed 3. Sediment pond is sized to accommodate this additional runoff for the required 10 year 24 hour rain event.

kstorrar

Reclamation Plan

General Requirements

Analysis:

The applicant has met the requirements of R645-301-800 General.

The Coal Hollow Mine is presently designated as a Non-Federal Mine. A Non-Federal Mine permit for C/025/0005 was issued on June 21, 2017 with an expiration date of June 21, 2023. Alton Coal Development, LLC also has in place a Non-Federal Reclamation Agreement for the Coal Hollow Mine C/025/0005.

Approval of this application will revise the Non-Federal status of the mine to a Federal mine (Federal Coal). This action will require a revised permit to include Federal mine designation. Alton Coal Development, LLC will also be required to complete a new Federal Reclamation Agreement. The Federal Reclamation Agreement will assign the State of Utah, Division of Oil, Gas and Mining (Division) as well as the U.S. Department of the Interior, Office of Surface Mining and Reclamation and Enforcement (OSM) as Obligatees of the reclamation bond.

ssstab

Topsoil and Subsoil

Analysis:

The application does not meet the requirements for R645-301-240, soil reclamation plan could not be evaluated, because Drawing 2-2 was missing from the application. Drawing 2-2 contains topsoil and subsoil accounting tables.

Drawing 5-38 shows the proposed reclamation timing. Pits F7 and F8 will remain to provide underground mining access. Together pits F7 and F8 will occupy 28.3 acres. However the West side of these pits will be graded and reclaimed. The portion of pits F7 and F8 to remain for UG mining is represented on Dwg 5-38 as an area approximately 16 acres.

Deficiencies Details:

DEF: The application does not meet the R645-301-240 soils reclamation plan. The following deficiency must be addressed prior to final approval:

R645-301-241, Provide soil redistribution volume tables.

pburton

Maps Reclamation Treatments

Analysis:

The amendment meets the State of Utah R645-301-323 requirements for reclamation treatment maps. An updated

Drawing 3-7 was included in the amendment. This drawing indicates the area of the proposed disturbance for this amendment and includes the treatments and seed mixture to be used upon reclamation. The proposed area comprises 42 acres which will undergo seedbed analysis, will be ripped, disked, and harrowed, and will have mulch applied. The Sagebrush/Grass seed mix will be used over the entire 42 acres.

tmiller

Bonding Determination of Amount

Analysis:

The amendment meets the State of Utah requirements for Determination of Bonding Amount.

The amendment satisfies the minimum requirements of R645-301-830 because Permittee has included cost estimates and cost model data to account for the additional surface disturbance in the South Lease associated with this application. The latest mine plan now proposes to mine surface pits 10-B and F-01 through F-08 in the Federal coal lease just north of the current Pit 10. In the process, Pit 10 will be filled in with the overburden from the pits as mining progresses north. Once pits F-01 through F-06 have been mined out and backfilled, Pits F-07 and F-08 will remain open to accommodate development of underground mining. The additional surface disturbance associated with essentially shifting the Pit 10 void north to Pits F-07 and F-08 equals 42 acres and is addressed in the bond posting and release plans included in this submittal. The maximum reclamation liability is addressed for both the South Lease and the North Private Lease, and the 10% Phase 1 incremental bonding figures are also preserved for all pits.

Previously the posted bond amount was \$12,750,000 and was considered adequate for the full life of both permit areas. As a result of the increased surface disturbance associated with additional mining in the South Lease the posted bond has been increased to \$13,000,000. The increased bond coverage will be needed because at the end of 2019 the cumulative bond liability increases to \$12,961,883.

jeatchel